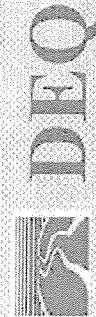


STACK TEST PROTOCOL - REQUEST FOR APPROVAL



This Section for DEQ Use Only	<input type="checkbox"/> PROTOCOL (consisting of pages 1 through _____) IS APPROVED AS SUBMITTED for this test series.	
	<input type="checkbox"/> WITH REVISIONS NOTED IN APPENDIX B, THE PROTOCOL (consisting of pages 1 through _____) IS APPROVED for this test series.	
Failure to conduct tests in accordance with the approved protocol may result in the test results being rejected by DEQ.		
Approved by: _____ Date: _____		

Date: March 31, 2006 (revised April 11, 2006)

I. Facility Name:	<u>Potomac River Generating Station</u>	DEQ Registration No. <u>70228</u>
Physical Location:	<u>1400 North Royal Street, Alexandria VA 22314</u>	
Emission Unit(s) to be tested:	<u>Unit 2, 3, 4 and/or 5</u>	

II. Stack Testing firm: TRC Environmental

Contact Name:	<u>Michael P. Martin</u>	Telephone No. <u>978-656-3550</u>
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DOCUMENT CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE :

Must be signed by a Responsible Official as defined in 9 VAC 5-20-230 of the Regulations for the Control and Abatement of Air Pollution, available at www.deq.virginia.gov

PRINTED NAME: James Garlick

TITLE: Vice President, Mirant Operations

DATE: 4-11-06

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III. Test Plan: PM-10

Test Required By: Condition # n/a of permit dated n/a and/or _____Deadline: Testing must be completed by n/a (date) to meet the _____ - day deadline required by _____

the permit dated n/a and/or Regulation n/a (reference).

Test Date	Operating Rate	EPA Test Method To Be Used	Pollutant or Parameter Measured	No. Runs & Run Length for Pollutant Testing	Applicable Numeric Emission Limitation	Source of Emission Limitation (e.g., Permit condition#, NSPS, MACT, etc.)
4/24 to 4/26/06 If unit available.	Unit 2 84.93 mw	201A/202	PM-10 and condensables	3 runs, run length approx. 90 min. (adj. per ΔP)	n/a	n/a
4/24 to 4/26/06 If unit available.	Unit 3 & 4 98-108 mw	201A/202	PM-10 and condensables	3 runs, run length approx. 90 min. (adj. per ΔP)	n/a	n/a
4/24 to 4/26/06 Unit is in schedule.	Unit 5 98-108 mw	201A/202	PM-10 and condensables	3 runs, run length approx. 90 min. (adj. per ΔP)	n/a	n/a

(continue on additional sheet if necessary)

IV. Description of planned deviations from Test Methods:

- No deviations are planned, OR
 Deviations are planned as described in the following table:

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PLANNED DEVIATIONS

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V. Source Operations: The purpose of a stack test is to demonstrate that a process and any associated emission control equipment are capable of meeting required emission limitations. Therefore, it is important to identify those parameters that affect actual emission rates and to ensure that such parameters remain at the tested or more conservative setting(s), except during start-up, shutdown or malfunction. Records of those parameter settings must be maintained during and after the test to provide reasonable assurance that the equipment continues to operate in compliance with all operating and emission limitations. The test results report must include the parameters identified below and their settings during testing.

1. Adjustable Operating Parameters: Following a discussion with your air inspector, identify all adjustable process and control equipment parameters that have a measurable effect on emissions, and complete the table below. Example parameters are listed in Appendix A.

Parameter	Setting/value during stack test	Monitoring Frequency	Fixed ¹ or Varying ² after test	If varying, justify not testing at multiple values.
Operating rate:	Unit 2 84-93 mw	Minute	Varying	Test in the 90-100% load range.
Operating rate:	Unit 3, 4 or 5 93-108 mw	Minute	Varying	Test in the 90-100% load range.

(continues on additional sheet if necessary)

Fixed means that no changes will be made (except during start-up, shutdown or malfunction) without validating with another stack, rest.

³ Varying exclusive of start-up, shutdown or malfunction.

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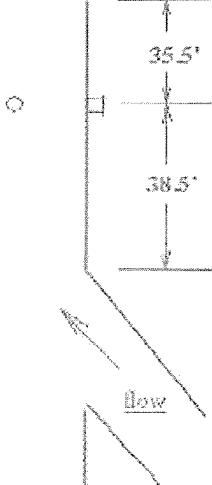
2. Performance Indicator Parameters: Other parameters necessary to establish system performance, or useful in detecting deteriorating performance, need to be monitored as well. Some example parameters are listed in Appendix A. Any parameter that is required by permit to be monitored must be monitored during the stack test at a frequency that will provide a representative average. Following a discussion with your air inspector, complete the table below. The test results report must include the run averages and also raw data if manually recorded.

Parameters to be Monitored	Measurement Frequency
Stack Opacity	One Minute Averages
Unit Load - Megawatts	One Minute Averages

(continue on additional sheet if necessary)

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VI. Sampling Ports: In the space below or on a separate sheet, sketch the stack or duct as follows:

TOP VIEW - show: 1) shape, 2) sample ports.	ELEVATION VIEW - show: 1) shape, 2) sampling ports, 3) all flow disturbances (upstream and downstream) affecting conditions at sampling ports, 4) distances from ports to disturbances, 5) gas flow direction.
 <u>Top View</u>  <u>Side View</u>	
<p>See attached drawing.</p> <p>Unit 1 & 2 Circular Stack: Diameter = <u>156.1 inches</u></p> <p>Units 3 & 5 Circular Stack: Diameter = <u>150 inches</u> Unit 4 Circular Stack: Diameter = <u>152.6 inches</u></p> <p>Rectangular Stack: L = <u> </u> W = <u> </u> \rightarrow Equivalent Diameter = $(2LW)/(L+W)$ = <u> </u></p>	

	UPSTREAM (exit side of ports)	DOWNSTREAM (process side of ports)
Type of Disturbance (E.g., exit, fan, bend, baffles, expansion, restriction, visible flame)	Exit	Top of fan breeching
Distance from Port to Disturbance = (dist.)	34.5 feet	39.5 feet
No. diameters from Port to Disturbance = (dist./dia.) or (dist./equivalent diameter)	2.7 Diameters	3.0 Diameters

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APPENDIX A

EXAMPLES OF PARAMETERS TO BE MONITORED DURING TESTING

Note: The facility is responsible for identifying and monitoring all process and control parameters that may reasonably be expected to affect the stack test results and to confirm operating conditions. These examples are not all-inclusive and may not always apply.

I. PROCESS	ADJUSTABLE OPERATING PARAMETERS	PERFORMANCE INDICATOR PARAMETERS
ALL	Operating rate; raw material composition and quality; automatic or manual control; equipment settings	Instrument readings as appropriate to establish operating conditions
Combustion	Fuel composition and quality; soot blowing frequency; damper settings; flue gas recirculation; water/steam injection rate; burner pressures; over/under fire air adjustments	Visible emissions-opacity; CO, HC concentration in flue gas; excess air; O ₂ concentration.
Coating (printing, painting)	VOC content of inks, coatings; equipment settings	
II. CONTROL EQUIPMENT	ADJUSTABLE OPERATING PARAMETERS	PERFORMANCE INDICATOR PARAMETERS
ALL	Automatic or manual control; equipment settings	Instrument readings as appropriate to establish operating conditions
Capture System	Damper positioning; doors or access panels open or shut; fan sheave or speed setting	Fan amps; pressure inside enclosure; integrity (door closed, no new openings); duct air velocity; direction of air flow at openings
Afterburner or Thermal Oxidizer	Temperature set points; frequency of flow reversal (for a regenerative system)	Temperature
Carbon Adsorber	Bed regeneration setting (initiated by time or outlet concentration); inlet gas temperature	Pressure drop
Catalytic Oxidizer	Temperature set points	Inlet & outlet temperature; catalyst activity; HC concentration in flue gas (measured with hand held PID or FID); pressure drop
Dry Scrubber	Type of reactive chemical; purity of reactive chemical; particle size of reactive chemical; injection rate; temperature	Feed rate indicator; temperature indicator
ESP	Number of fields in service; location of out-of-service field(s); control software/microprocessor settings and/or methodology; gas temperature; rmp rate; flue gas flow	Visible emissions-opacity; power levels (secondary current & secondary voltage)
Fabric filter	Setting for bag cleaning frequency (e.g. time or pressure drop settings); number of bags/compartments in service	Pressure drop; visible emissions-opacity; triboelectric sensor reading (bag leak detector)
Liquid Scrubber (packed bed, spray; venturi)	Liquid flow rate; venturi throat opening; particulate concentration in liquid (all fresh just before test or equilibrium levels); fresh liquid make-up rate; set point for neutralizing, oxidizing or reactive chemical addition; pH set point	Pressure drop; neutralizing, oxidizing or reactive chemical concentration; pH

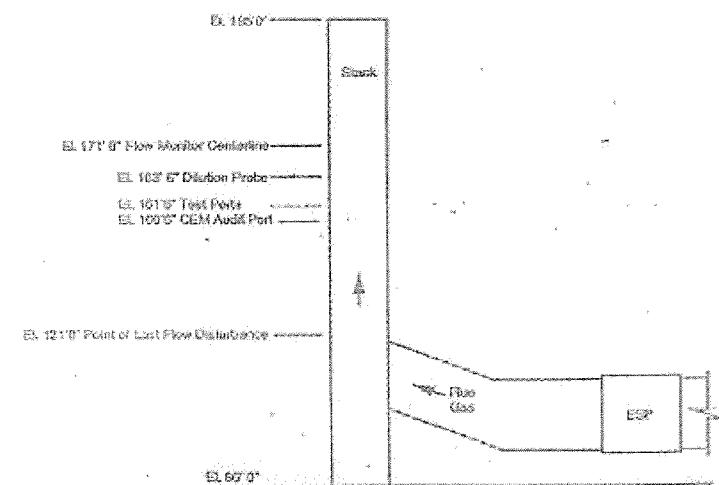
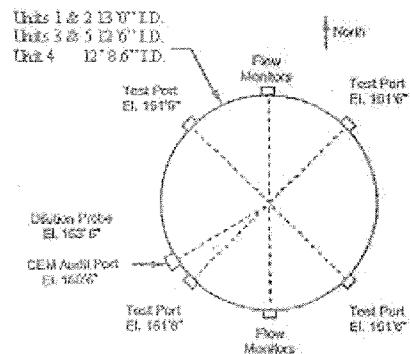
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APPENDIX B

REVISIONS REQUIRED BY DEQ AS A CONDITION OF APPROVAL

(continue on additional sheet if necessary)

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Stack and sampling location schematics ~

Potomac River Station

Typical

